



SEQUENCE LISTING

<110> Rottier, Petrus J.M.
de Haan, Cornelis A.M.
Haijema, Bert J.
Bosch, Berend J.

<120> Corona-virus-like particles comprising functionally
deleted genomes

<130> P56179US20

<140> US 10/750,411

<141> 2003-12-30

<150> PCT/NL02/00318

<151> 2002-05-17

<150> EP 01201861.0

<151> 2001-05-17

<160> 80

<170> PatentIn Ver. 3.1

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<210> 19
<211> 34
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<210> 21
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<210> 22
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<210> 23

<211> 25

<212> DNA

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25

<210> 24

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer 1474

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18

<210> 25

<211> 38

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: forward primer

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38

<210> 26

<211> 27

<212> DNA

<213> Artificial Sequence

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<400> 26

cgaattcatt ccttgagggtt gatgtag

27

<210> 27

<211> 18

<212> DNA

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<223> Description of Artificial Sequence: primer 1244

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<210> 28
<211> 39
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<223> Description of Artificial Sequence: primer 1514

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ctgagtctag agtagctagc taatgactaa taagtttag 39

<210> 29
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<223> Description of Artificial Sequence: primer 1245

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<210> 30
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<223> Description of Artificial Sequence: primer 1513

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<210> 31
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<213> Coronavirus sp.

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<223> /Note="Infectious Bronchitis Coronavirus TRS"

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cttaacaa 8

<210> 32
<211> 8
<212> DNA
<213> Human Coronavirus sp.

<220>
<223> /Note="Human Coronavirus TRS"

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tctcaact

8

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<223> Description of Artificial Sequence: sequence of
new junction created in recombinant MHV-virus

<400> 33
gaggattgac tatcacagcc cctgcaggaa agacagaaaa tctaaacaat

50

<210> 34
<211> 77
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<223> Description of Artificial Sequence: sequence of
new junction created in recombinant MHV-virus

<400> 34
gaggattgac tatcacagcc cctgcaggac taatctaaac tttattcttt ttagggccac 60
gcagctcgaa agaaatg 77

<210> 35
<211> 37
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<223> Description of Artificial Sequence: sequence of
new junction created in recombinant MHV-virus

<400> 35
gtcaaataaa gcttgcata ggcataatct aaacatg

37

<210> 36
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<223> Description of Artificial Sequence: primer 1287
used for the introduction of an intergenic
promotor sequence (IGS) in front of the renilla
(RL) and firefly luciferase (FL) gene

<400> 36

acgtcctata gattagattt gaaatcgatc

30

<210> 37

<211> 55

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: nucleotide
sequence of pBRDI1 and pBRDI2 around the 5' end of
the FIPV genome sequence

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ctcgagtcga aattaatacg actcactata gggtttttaa agtaaagtga gtgta

55

<210> 38

<211> 36

<212> DNA

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<223> Description of Artificial Sequence: pBRDI sequence
at the pol 1A/pol1B junction

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gttattgaag gtgagctctg gactgtgttt tgtaca

36

<210> 39

<211> 12

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<223> Description of Artificial Sequence: protein
sequence derived from pBRDI sequence at the
pol1A/1B junction

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Val Ile Glu Gly Glu Leu Trp Thr Val Phe Cys Thr
1 5 10

<210> 40

<211> 31

<212> DNA

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sequence at the 3' end of the cDNA construct

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31

<210> 41

<211> 54

<212> DNA

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<223> Description of Artificial Sequence: nucleotide
sequence at the FIPV pol1B-MHV S transition in
pTMFS1 and pBRDI2

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gttaatgtgc catgctgttc gtgtttattc tattttttgcc ctcttggtta gggt

54

<210> 42

<211> 13

<212> PRT

<213> Artificial Sequence

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sequence derived from nucleotide sequence at the
FIPV pol1B-MHV S transition in pTMFS1 and pBRDI2

<400> 42

Pro Cys Cys Ser Cys Leu Phe Tyr Phe Cys Pro Leu Val
1 5 10

<210> 43

<211> 11

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: protein
sequence derived from nucleotide sequence at the
FIPV pol1B-MHV S transition in pTMFS1 and pBRDI2

<400> 43

Met Leu Phe Val Phe Ile Leu Phe Leu Pro Ser
1 5 10

<210> 44

<211> 25

<212> PRT

<213> mouse hepatitis virus

<400> 44

Ser Ser Tyr Gly Met Ser Glu Ser Ala Asp Ala Asn Gly Ser Ala Glu
1 5 10 15

Asn Asn Ser Arg Leu Thr Glu Lys Asn
20 25

<210> 45

<211> 25

<212> PRT

<213> Human coronavirus

<400> 45

Tyr Asn Tyr Gly Met Ser Gln Asn Tyr Ala Asp Ala Asn Val Ala Ala
1 5 10 15

Glu Asn Gln Ser Arg Leu Ser Glu Asn
20 25

<210> 46

<211> 42

<212> PRT

<213> Human coronavirus

<400> 46

Ser Ala Tyr Gln Thr Gln Glu Ala Lys Thr Asn Val Thr Gly Val Asn
1 5 10 15

Asp Ala Ile Thr Gln Thr Ser Gln Ala Leu Gln Val Ala Asn Gln Asn
20 25 30

His Thr Ser Arg Gln Ala Asp Thr Gln Gln
35 40

<210> 47

<211> 43

<212> PRT

<213> Feline infectious peritonitis virus

<400> 47

Ala Ala Tyr Gln Thr Asn Lys Gln Asn Asn Thr Gln Gly Lys Val Asn
1 5 10 15

Asp Ala Ile His Gln Thr Ser Gln Gly Leu Ala Val Ala Lys Ala Thr
20 25 30

Gln Ser His Thr Val Gln Gln Ser Asn Glu Ser
35 40

<210> 48
 <211> 36
 <212> PRT
 <213> Infectious bronchitis virus

<400> 48

Ala Thr Gln His Gln Ser Leu Lys Glu Lys Ala Lys His Arg Ser Leu
 1 5 10 15

Gln Gln Ser Lys Ser Ala Ile Thr Glu Thr Ala Ser Asn Lys Val Gln
 20 25 30

Gln Phe Gln Asn
 35

<210> 49
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<223> Description of Artificial Sequence: peptide HR1

<400> 49

Gly Pro Ile Glu Gly Arg Gln Tyr Arg Ile Asn Gly Leu Gly Val Thr
 1 5 10 15

Met Asn Val Leu Ser Glu Asn Gln Lys Met Ile Ala Ser Ala Phe Asn
 20 25 30

Asn Ala Leu Gly Ala Ile Gln Asp Gly Phe Asp Ala Thr Asn Ser Ala
 35 40 45

Leu Gly Lys Ile Gln Ser Val Val Asn Ala Asn Ala Glu Ala Leu Asn
 50 55 60

Asn Leu Leu Asn Gln Leu Ser Asn Arg Phe Gly Ala Ile Ser Ala Ser
 65 70 75 80

Leu Gln Glu Ile Leu Thr Arg Leu Glu Ala Val Glu Ala Lys Ala Gln
 85 90 95

Ile Asp Arg Leu Ile Asn
 100

<210> 50
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<223> Description of Artificial Sequence: peptide HR1a

<400> 50

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 Gln Ser Val Val Asn Ala Asn Ala Glu Ala Leu Asn Asn Leu Leu Asn
 35 40 45
 Gln Leu Ser Asn Arg Phe Gly Ala Ile Ser Ala Ser Leu Gln Glu Ile
 50 55 60
 Leu Thr Arg Leu Glu Ala Val Glu Ala Lys Ala Gln Ile Asp Arg Leu
 65 70 75 80
 Ile Asn

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<400> 51
 Gly Pro Asn Gln Lys Met Ile Ala Ser Ala Phe Asn Asn Ala Leu Gly
 1 5 10 15
 Ala Ile Gln Asp Gly Phe Asp Ala Thr Asn Ser Ala Leu Gly Lys Ile
 20 25 30
 Gln Ser Val Val Asn Ala Asn Ala Glu Ala Leu Asn Asn Leu Leu Asn Gln
 35 40 45

<210> 52
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 Gly Pro Ile Glu Gly Arg Asn Ala Asn Ala Glu Ala Leu Asn Asn Leu
 1 5 10 15
 Leu Asn Gln Leu Ser Asn Arg Phe Gly Ala Ile Ser Ala Ser Leu Gln
 20 25 30
 Glu Ile Leu Thr Arg Leu Glu Ala Val Glu Ala Lys Ala Gln Ile Asp
 35 40 45
 Arg Leu Ile Asn
 50

<210> 53
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<213> mouse hepatitis virus

<400> 53

Phe	Glu	Lys	Leu	Tyr	Asn	Asp	Ala	Lys	Lys	Glu	Tyr	Glu	Gly	Thr	Tyr
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Met

<210> 54
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<400> 54

Phe	Glu	Lys	Leu	Tyr	Asn	Asp	Ala	Lys	Lys	Glu	Tyr	Glu	Gly	Thr	Tyr
1				5					10					15	

Met

<210> 55
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<400> 55

Val	Gln	Gln	Ser	Ser	Thr	Asn	Lys	Ser	Ala	Glu	Leu	Asn	Tyr	Thr	Val
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Gln	Lys	Leu	Gln	Thr	Asp	Asn	Ser	Trp	Asn	Arg
			20					25		

<210> 56
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<213> Feline infectious peritonitis virus

<400> 56

Phe	Ile	Ala	Tyr	Gly	Asp	Asp	Phe	Arg	Ser	Glu	Lys	Leu	His	Asn	Thr
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Thr	Val	Glu	Leu	Ala	Ile	Asp	Asn	Asn	Glu	Trp	Asn	Arg
			20					25				

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 <213> Infectious bronchitis virus

<400> 57

Phe Asp Lys Phe Asn Thr Pro Asp Ser Asp Gly Gln Gly Asp Glu Lys
 1 5 10 15

Ser Ile Lys

<210> 58
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<223> Description of Artificial Sequence: peptide HR2

<400> 58

Gly Pro Ile Glu Gly Arg Asp Leu Ser Leu Asp Phe Glu Lys Leu Asn
 1 5 10 15

Val Thr Leu Leu Asp Leu Thr Tyr Glu Met Asn Arg Ile Gln Asp Ala
 20 25 30

Ile Lys Lys Leu Asn Glu Ser Tyr Ile Asn Leu Lys Glu
 35 40 45

<210> 59
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<223> Description of Artificial Sequence: sequence of
 junction generated in recombinant MHV-virus

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<210> 60
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<210> 61
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 <223> Description of Artificial Sequence: sequence of
 junction generated in recombinant MHV-virus

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 gatattctaat ctaaacttta aggatg 26

 <210> 63
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 junction generated in recombinant MHV-virus

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 gtcaaataaa gcttgcatga ggcataatct aaacatg 37

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 junction generated in recombinant MHV-virus

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 junction generated in recombinant MHV-virus

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<210> 66
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 <223> Description of Artificial Sequence: sequence of
 junction generated in recombinant MHV-virus

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 gaggattgac tatcacagcc cccgcgca 28

<210> 67
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<220>
 <223> Description of Artificial Sequence: sequence of
 junction generated in recombinant MHV-virus

<400> 67
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<210> 68
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 gccattctca ttgataac 18

<210> 69
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 SOE-PCR

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gcttctgttg agtaatcacc 20

<210> 70
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<220>
<223> Description of Artificial Sequence: primer 3 for
SOE-PCR

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<223> Description of Artificial Sequence: primer 4 for
SOE-PCR

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<210> 72
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SOE-PCR

<400> 72
ggtgattact caacagaagc 20

<210> 73
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SOE-PCR

<400> 73
gcggccgctt tttttttttt 20

<210> 74
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<212> DNA
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 SOE-PCR

 <400> 74
 gaggttacga attaaactga gttataaggc aac 33

 <210> 75
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 tttaattcgt aacctc 16

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 <210> 77
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 SOE-PCR

 <400> 77
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 <210> 78
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 <220>
 <223> Description of Artificial Sequence: primer 11 for

SOE-PCR

<400> 78

gaccagtttt agacatcg

18

<210> 79

<211> 14196

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: sequence of
plasmid pBRDI1

<400> 79

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